OBSERVATIONS & RECOMMENDATIONS

After reviewing data collected from **MASCOMA LAKE** the program coordinators recommend the following actions.

FIGURE INTERPRETATION
STATION 1 (SOUTH)

- Figure 1: These graphs illustrate concentrations of chlorophyll-a, also a measure of algal abundance, in the water column. Algae are microscopic plants that are a natural part of lake ecosystems. Algae contain chlorophyll-a, a pigment necessary for photosynthesis. A measure of chlorophyll-a can indicate the abundance of algae in a lake. The historical data (the bottom graph) show a *fairly stable* in-lake chlorophyll-a trend. There has been a slightly increasing trend taking place since 1997, however the summer 2000 chlorophyll-a levels were lower than last year's. Algal abundance in June was quite low and the low phosphorus concentrations might have helped keep algal growth to a minimum. Mean chlorophyll concentrations continue to remain below the NH mean value, although chlorophyll-a values increased as the summer progressed. While algae are present in all lakes, an excess amount of any type is not welcomed. Concentrations can increase when there are internal and external sources of phosphorus, which is the nutrient algae depend upon for growth. It's important to continue the education process and keep residents aware of the sources of phosphorus and how it influences lake quality.

- Figure 2: Water clarity is measured by using a Secchi disk. Clarity, or transparency, can be influenced by such things as algae, sediments from erosion, and natural colors of the water. The graphs on this page show historical and current year data. The lower graph shows a *worsening* trend in lake transparency. Water clarity decreased this season to the levels observed in 1998. The 2000 sampling season was considered to be wet and, therefore, average transparency readings are expected to be slightly lower than last year's readings. Higher amounts of rainfall usually cause more eroding of sediments into the lake and streams, thus decreasing clarity.

- Figure 3: These figures show the amounts of phosphorus in the epilimnion (the upper layer in the lake) and the hypolimnion (the lower layer); the inset graphs show current year data. Phosphorus is the limiting nutrient for plants and algae in New Hampshire waters. Too much phosphorus in a lake can lead to increases in plant growth over time. These graphs show a *stable* trend for in-lake phosphorus levels, and no alarming increases in phosphorus concentrations have been experienced. July hypolimnetic phosphorus concentrations were slightly elevated and could have been caused by the turbidity of the sample. Overall, mean total phosphorus in the hypolimnion was lower than last year. Average total phosphorus concentrations of both water layers were below the state median in 2000. Contamination of the sample with bottom sediment can raise phosphorus concentrations and yield inaccurate results. The low concentrations in the epilimnion and hypolimnion in June helped keep the algal concentrations low. One of the most important approaches to reducing phosphorus levels is educating the public. Humans introduce phosphorus to lakes by several means: fertilizing lawns, septic system failures, and detergents containing phosphates are just a few. Keeping the public aware of ways to reduce the input of phosphorus to lakes means less productivity in the lake. Contact the VLAP coordinator for tips on educating your lake residents or for ideas on testing your watershed for phosphorus inputs.

OTHER COMMENTS

- As part of the state's lake trophic classification program, DES biologists performed a comprehensive lake survey on both stations of Mascoma Lake. All public lakes in the state are surveyed every ten to fifteen years. In addition to the tests normally carried out by VLAP, biologists tested for common metals, nitrogen, created a map of the bottom contours of the lake (bathymetry), and mapped the abundance and distribution of aquatic plants along the shores. For a complete copy of the raw data from the survey, please contact the DES Biology Section at (603) 271-2963. A final report should be available in 2002 and a copy can be found at any state library.

- The process of decomposition in the sediments depletes dissolved oxygen on the bottom of the lake. As bacteria break down organic matter, they deplete oxygen in the water. When oxygen gets below 1 mg/L, phosphorus normally bound up in the mud may be released into the water column, a process that is referred to as *internal loading*. Depleted oxygen in the hypolimnion usually occurs as the summer progresses. Thanks to your diligent monitoring efforts, we were able to track this phenomenon as it was occurring this summer. In July, dissolved oxygen (Table 9) was at the critical level of 1.0 mg/L at the bottom meter of the lake, in August oxygen was below this level 4 meters off the bottom, and by October oxygen was depleted up through both the hypolimnion and the metalimnion (middle water

layer). This does not appear to be raising phosphorus concentrations, however, sampling depths need to be increased to below 18.0 meters. We suggest this because sampling depths this season were above the point of oxygen depletion and therefore did not reveal an internal source of phosphorus. Since there is most likely an internal source of phosphorus to the lake, limiting or eliminating external phosphorus sources in the lake's watershed is even more important for lake protection.

- **Please note** in June phosphorus levels for 4A Lebanon Brook, Dulacs Brook, Smith Pond Inlet, Dam Outlet, and the metalimnion were found to be less than 5 µg/L. The NHDES Laboratory Services adopted a new method of analyzing total phosphorus this year and the lowest value that can be recorded is less than 5 µg/L. We would like to remind the association that a reading of 5 µg/L is considered low for New Hampshire's waters.

- The ANC (acid neutralizing capacity) of the epilimnion in August was unusually high for the lake (Table 5). Minerals and salts can accumulate in the water as the summer progresses, and this can raise the buffering capacity of the water yielding higher ANC results. By August, conductivity readings for most inlets were significantly higher, meaning more nutrients were entering the lake, which could contribute to the buffering capacity of the water.

- *E. coli* originates in the intestines of warm-blooded animals (including humans) and is an indicator of associated and potentially harmful pathogens. Bacteria concentrations (Table 12) in Brown's Brook for the month of August were > 400, and most likely above the state standard of 406 counts per 100 mL set for Class B surface waters. Concentrations in July were also elevated to undesirable levels, although they remained below the state standard. Bacteria tend to thrive in warm stagnant waters, so we recommend testing after rain events to identify possible septic system failures. *E. coli* concentrations at the Public Beach were all very low, and well below the state standard of 88 counts per 100 mL set for public bathing places. Please consult the Other Monitoring Parameters section of the report for the current standards for *E. coli* in surface waters.

- Conductivity was lower at most sampling sites this season (Table 6), with the exception of Shaker Brook. This inlet experienced the highest conductivity value since the VLAP monitors began collecting samples at the site in 1991. The other stations, however, had lower conductivity levels due in part to the greater rainfall encountered in New Hampshire during the summer of 2000. In fact, some stations had the lowest ever recorded conductivities this summer, including: 4A Lebanon Brook, Baltic Mills (only sampled since 1999), LaSalette Brook, Lower Shaker Brook, Patten Bridge, and Sucker Brook. We will observe these stations in the future.

- The Mascoma Lake Community Association applied for a grant to study four tributaries to the lake: Brown Brook, Knox River, LaSalette Brook, and the Mascoma River upstream of Enfield village. These sites will be tested weekly in the spring and fall, and monthly during the regular summer sampling dates. Samples will be collected and analyzed for *E. coli* and total phosphorus in order to determine from where pollutants are entering these inlets. We look forward to the outcome of this project and offer our help in any way necessary.

NOTES

- Biologist's Note (6/15/00): No DO/temp profile done; batteries dead.

- Monitor's Note (7/9/00): No rain, 2 fairly windy days (white caps) 7th and 8th. No rain for about 10 days.

FIGURE INTERPRETATION
STATION 2 (NORTH)

- Figure 1: Chlorophyll-a concentrations are *stable* in this Station. Chlorophyll concentrations in June were at an all time low for the lake with diatoms dominating in both stations. Concentrations remain well below the NH mean value and we hope to see a continuation of this trend.

- Figure 2: Transparency appears to be *slightly worsening*, and like the South Station, experienced a drop this season. Water clarity in July was low possibly as a result of bottom sediment being stirred up when sampling, which can cause the water to become more turbid and make Secchi disk viewing more difficult.

- Figure 3: Phosphorus concentrations in the epilimnion and hypolimnion have remained *stable* since 1997. Phosphorus results in July for the hypolimnion were elevated as a result of sample contamination with bottom sediment. Overall, phosphorus concentrations were consistent throughout the summer months and remained at healthy levels for the lake.

OTHER COMMENTS

- Dissolved oxygen profiles were conducted in July and August for the North Station. July results show oxygen depleted below 1 mg/L one meter off the bottom. By August this depletion reaches to two meters off the bottom, otherwise, dissolved oxygen remains relatively high in the water column.

NOTES

- Biologist's Note (6/15/00): No D.O./Temp. profile done because batteries were dead.

- Monitor's Note (7/9/00): 8th and 7th clear but windy (white caps). Fair weather clouds – 30-40 average %.

- Biologist's Note (7/9/00): Turbidity result repeated for hypolimnion, and confirmed (sample visible cloudy).

USEFUL RESOURCES

Aquatic Plants and Their Role in Lake Ecology, WD-BB-44, NHDES Fact Sheet, (603) 271-3503 or www.state.nh.us

Snow Disposal Guidelines, WD-WSQB-6, NHDES Fact Sheet, (603) 271-3503 or www.state.nh.us

The Watershed Guide to Cleaner Rivers, Lakes, and Streams, Connecticut River Joint Commissions, 1995. (603) 826-4800

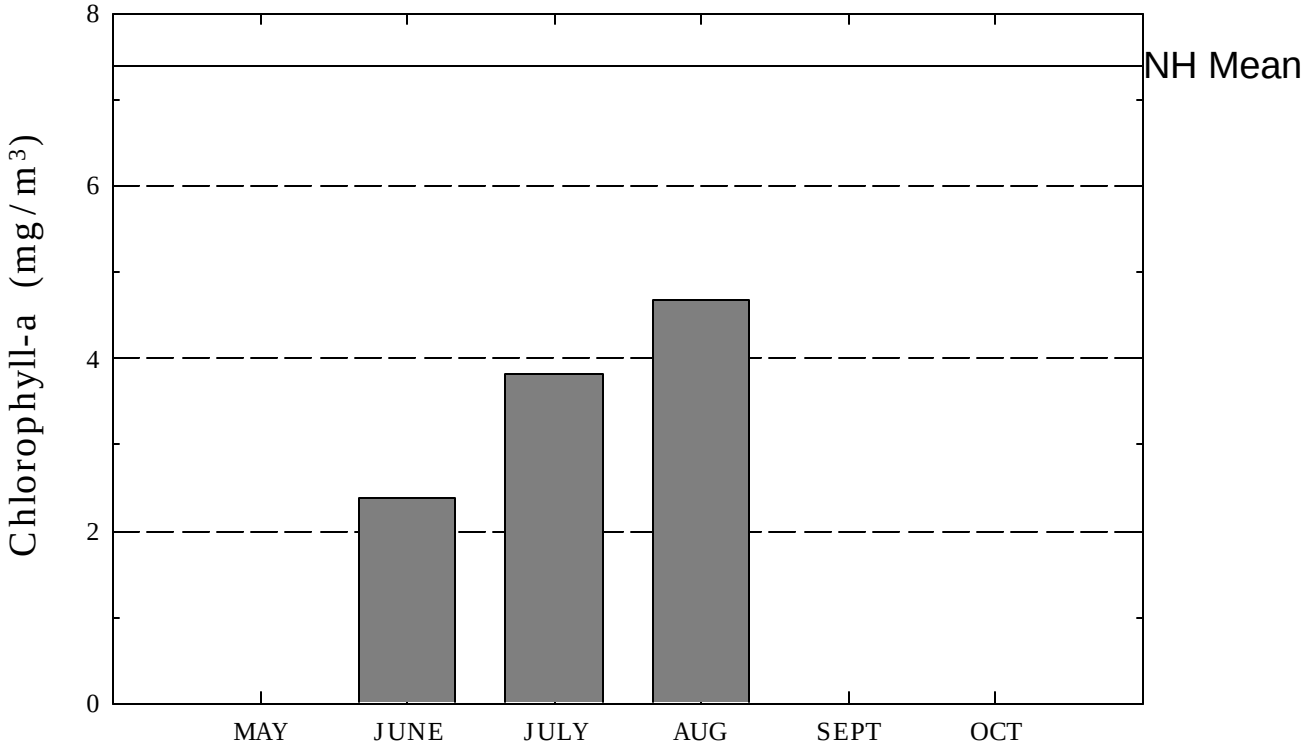
Best Management Practices to Control Nonpoint Source Pollution: A Guide for Citizens and Town Officials, NHDES-WD 97-8, NHDES Booklet, (603) 271-3503

Erosion on Shorefront Property, NH Lakes Association pamphlet, (603) 226-0299 or www.nhlakes.org

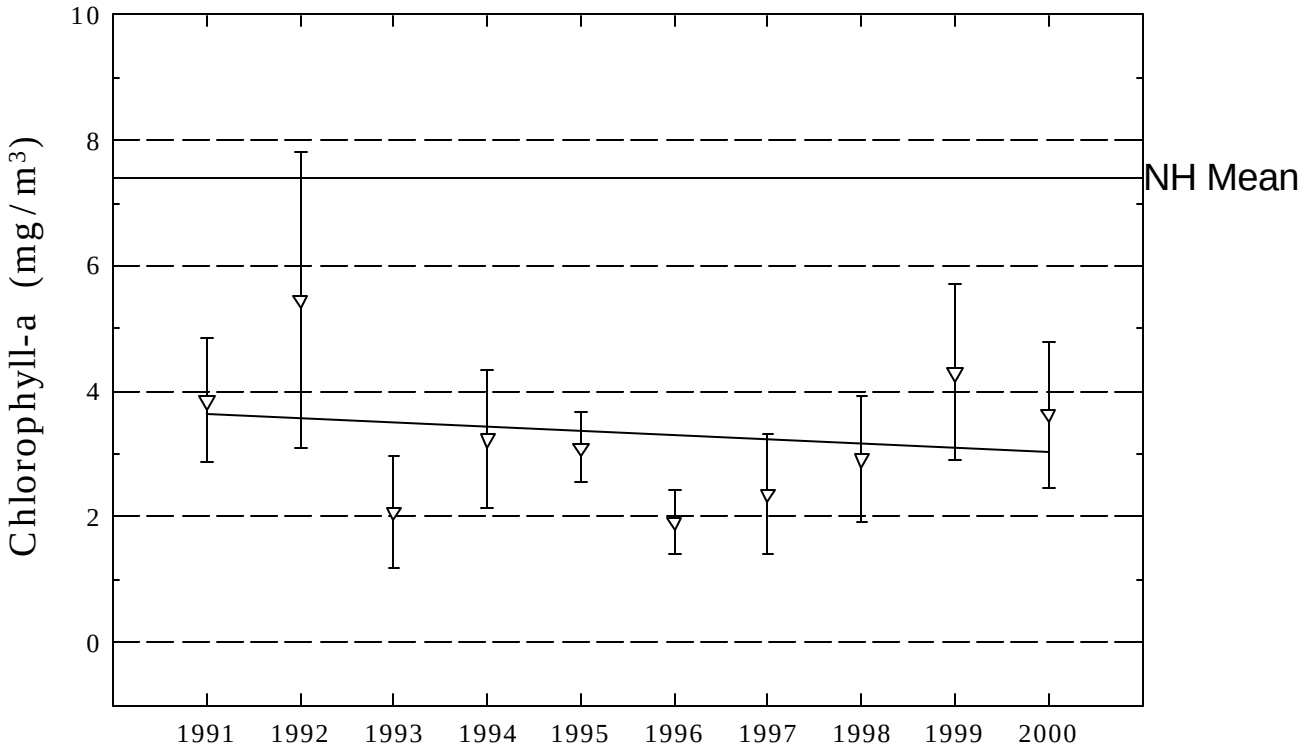
Vegetated Shoreline Buffers, video, North Country RC&D, (603) 536-2146 *In Our Backyard*. 1994.

Mascoma Lake, Station 1

Figure 1. Monthly and Historical Chlorophyll-a Results



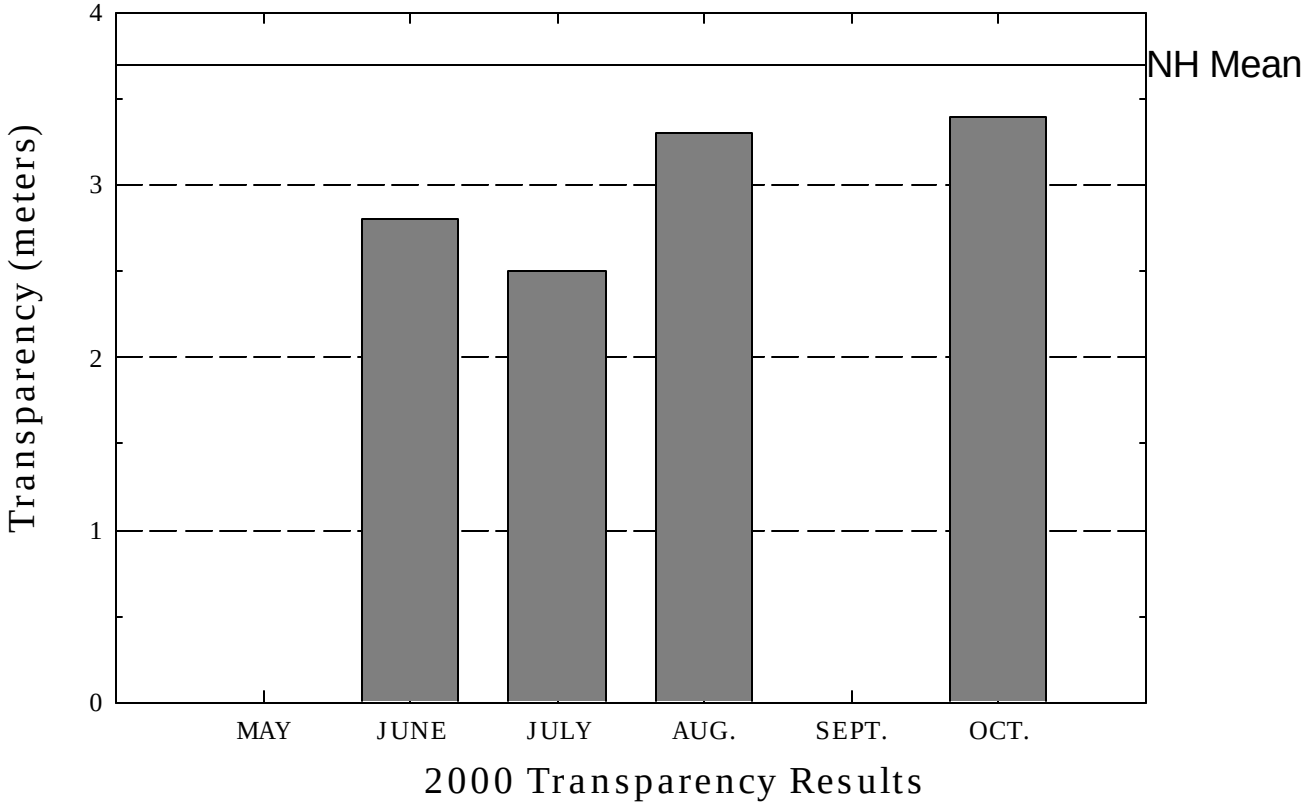
2000 Chlorophyll-a Results

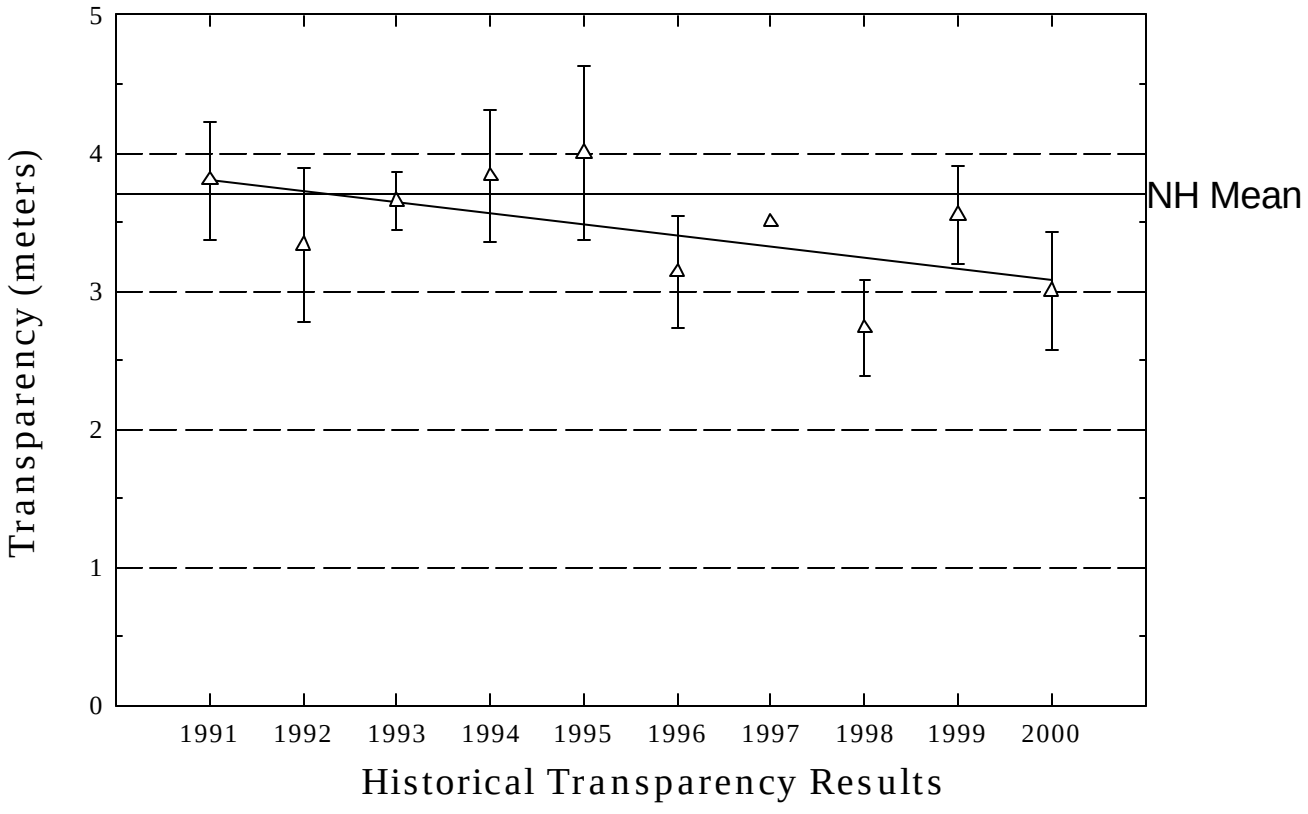


Historical Chlorophyll-a Results

Mascoma Lake, Station 1

Figure 2. Monthly and Historical Transparency Results





Mascoma Lake, Station 1

Figure 3. Monthly and Historical Total Phosphorus Data.

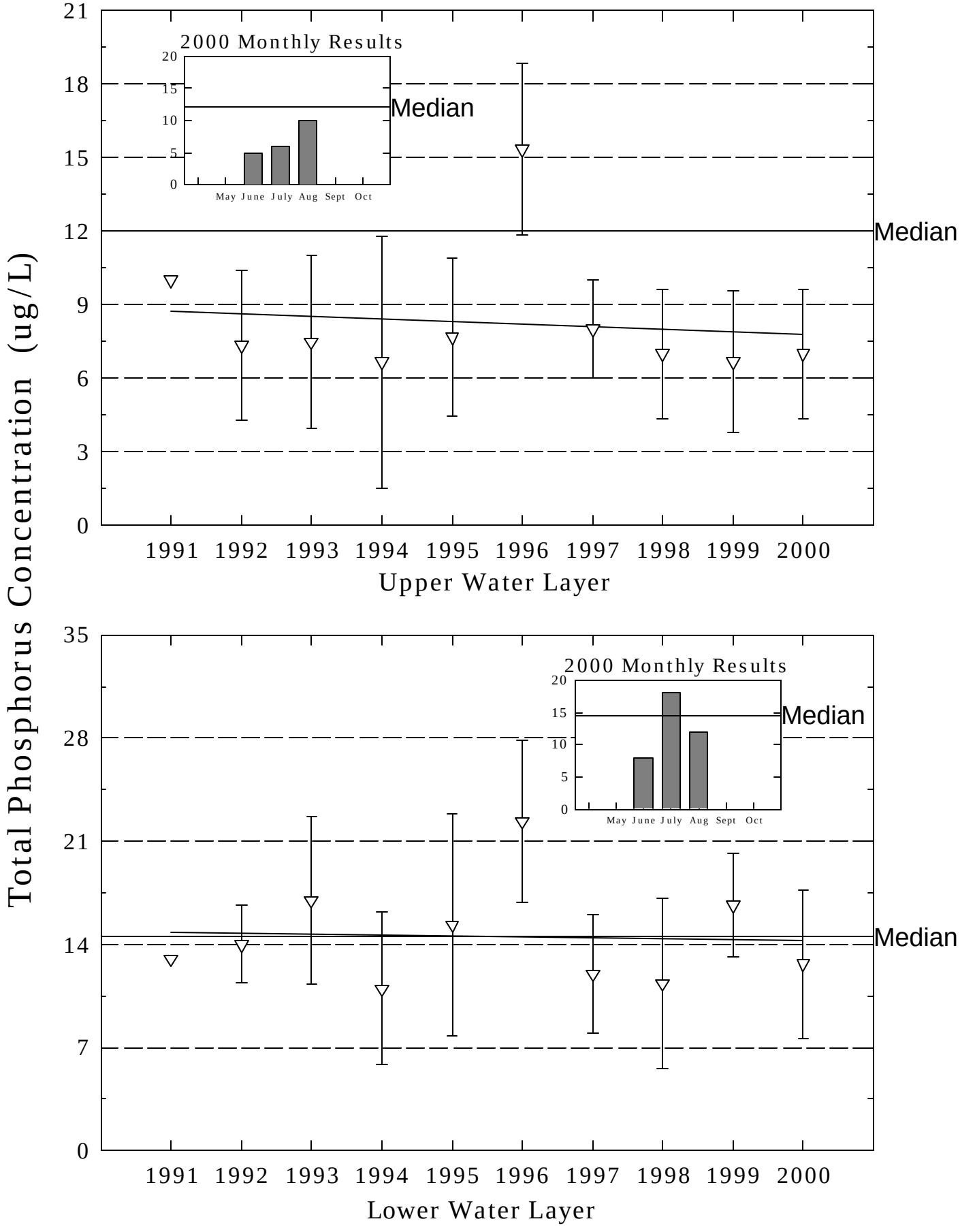


Table 1.

MASCOMA LAKE, STN 1

ENFIELD

Chlorophyll-a results (mg/m^3) for current year and historical sampling periods.

Year	Minimum	Maximum	Mean
1991	3.15	4.55	3.85
1992	4.00	8.18	5.56
1993	1.45	2.72	2.24
1994	2.35	4.48	3.24
1995	2.54	3.65	3.10
1996	1.59	2.52	1.92
1997	1.80	3.48	2.37
1998	2.01	3.98	2.92
1999	3.08	5.83	4.29
2000	2.39	4.69	3.63

Table 2.

MASCOMA LAKE, STN 1

ENFIELD

Phytoplankton species and relative percent abundance.

Summary for current and historical sampling seasons.

Date of Sample	Species Observed	Relative % Abundance
06 / 27 / 1991	TABELLARIA	62
	ASTERIONELLA	16
06 / 29 / 1992	TABELLARIA	99
	DINOBRYON	1
06 / 29 / 1992	TABELLARIA	73
	DINOBRYON	19
07 / 06 / 1993	ASTERIONELLA	44
	MICROCYSTIS	14
06 / 16 / 1994	ANABAENA	44
	ASTERIONELLA	33
	TABELARIA	19
06 / 21 / 1995	ANABAENA	48
	ASTERIONELLA	46
	UROGLENOPSIS	3
06 / 27 / 1996	MELOSIRA	12
	ASTERIONELLA	12
	ANABAENA	9
07 / 09 / 1997	TABELLARIA	56
	ANABAENA	10
	ASTERIONELLA	8
07 / 01 / 1998	CHRYSOSPHAERELLA	38
	DINOBRYON	35
	ANABAENA	12
07 / 06 / 1999	TABELLARIA	38
	ASTERIONELLA	37
	SYNEDRA	7
06 / 15 / 2000	ASTERIONELLA	89
	TABELLARIA	8
	DINOBRYON	2

Table 3.

MASCOMA LAKE, STN 1

ENFIELD

Summary of current and historical Secchi Disk transparency results (in meters).

Year	Minimum	Maximum	Mean
1991	3.5	4.1	3.8
1992	2.8	3.9	3.3
1993	3.5	4.0	3.7
1994	3.3	4.2	3.8
1995	3.3	4.5	4.0
1996	2.7	3.5	3.1
1997	3.5	3.5	3.5
1998	2.4	3.1	2.7
1999	3.3	3.8	3.5
2000	2.5	3.4	3.0

Table 4.

MASCOMA LAKE, STN 1

ENFIELD

pH summary for current and historical sampling seasons.
Values in units, listed by station and year.

Station	Year	Minimum	Maximum	Mean
4A LEBANON BROOK				
	1991	6.67	7.00	6.80
	1992	6.25	6.25	6.25
	1993	6.11	6.62	6.34
	1994	6.41	7.10	6.62
	1995	6.56	6.78	6.68
	1996	6.36	6.60	6.46
	1997	6.23	6.68	6.46
	1998	6.56	6.56	6.56
	2000	6.52	6.64	6.58
BALTIC MILLS				
	1999	7.01	7.01	7.01
	2000	6.71	7.35	6.92
BROAD BROOK				
	1991	6.10	6.10	6.10
BROOK NORTH				
	1996	7.45	7.45	7.45
BROOK SOUTH				
	1996	7.31	7.31	7.31
BROWNS BROOK				
	1991	6.10	6.10	6.10
	1992	5.90	6.02	5.96
	1993	5.80	6.91	6.05

Table 4.

MASCOMA LAKE, STN 1

ENFIELD

pH summary for current and historical sampling seasons.
Values in units, listed by station and year.

Station	Year	Minimum	Maximum	Mean
	1994	5.92	7.34	6.15
	1995	5.99	6.19	6.09
	1996	6.00	6.76	6.21
	1997	5.72	6.00	5.84
	1998	6.05	6.48	6.16
	1999	5.82	5.88	5.85
	2000	5.88	6.41	6.13
DAM OUTLET				
	1991	7.37	7.70	7.50
	1992	7.21	7.21	7.21
	1993	7.15	7.15	7.15
	1994	7.12	7.31	7.18
	1995	7.24	7.46	7.34
	1996	7.05	7.51	7.25
	1997	6.78	7.35	7.02
	1998	6.75	7.25	6.99
	1999	6.96	7.44	7.20
	2000	6.99	7.43	7.19
DULACS BROOK				
	1991	6.70	6.90	6.79
	1992	6.55	6.58	6.56
	1993	6.57	6.84	6.65
	1994	6.63	7.46	6.88
	1995	6.63	6.96	6.82
	1996	6.65	6.89	6.73
	1997	6.42	6.74	6.58

Table 4.

MASCOMA LAKE, STN 1

ENFIELD

pH summary for current and historical sampling seasons.
Values in units, listed by station and year.

Station	Year	Minimum	Maximum	Mean
	1998	6.72	6.85	6.78
	1999	6.56	6.77	6.67
	2000	6.44	6.65	6.57
EASTSIDE BROOK				
	1998	7.42	7.42	7.42
ENFIELD INLET				
	1993	6.99	6.99	6.99
EPILIMNION				
	1991	7.37	7.37	7.37
	1992	6.05	7.06	6.34
	1993	7.35	7.36	7.35
	1994	6.95	7.10	7.04
	1995	7.14	7.38	7.25
	1996	6.20	7.06	6.56
	1997	6.94	7.26	7.07
	1998	6.34	7.10	6.62
	1999	5.50	7.40	5.96
	2000	6.85	7.08	6.96
ESSENBURG COTTAGE				
	2000	7.20	7.20	7.20
HYPOLIMNION				
	1991	6.28	6.28	6.28
	1992	5.90	6.24	6.06
	1993	6.34	6.50	6.41

Table 4.

MASCOMA LAKE, STN 1

ENFIELD

pH summary for current and historical sampling seasons.
Values in units, listed by station and year.

Station	Year	Minimum	Maximum	Mean
	1994	6.14	6.57	6.27
	1995	6.48	7.21	6.69
	1996	6.17	6.19	6.18
	1997	5.78	6.44	6.10
	1998	6.16	6.34	6.22
	1999	6.15	6.44	6.27
	2000	6.12	6.75	6.26
INLET				
	1994	7.02	7.02	7.02
ISLAND BROOK				
	1996	7.11	7.64	7.30
KNOX BROOK				
	1991	7.14	7.30	7.21
	1992	6.75	7.27	6.94
	1993	7.00	7.23	7.10
	1994	6.83	7.57	7.04
	1995	7.07	7.44	7.23
	1996	6.85	7.35	7.00
	1997	6.70	7.27	6.95
	1998	7.02	7.32	7.13
	1999	7.03	7.10	7.07
	2000	6.94	7.05	7.00
KU INLET				
	1991	7.14	7.14	7.14

Table 4.

MASCOMA LAKE, STN 1

ENFIELD

pH summary for current and historical sampling seasons.
Values in units, listed by station and year.

Station	Year	Minimum	Maximum	Mean
LA SALETTE BROOK				
	1991	7.53	7.53	7.53
	1992	6.85	7.21	6.99
	1993	7.04	7.39	7.17
	1994	6.91	7.19	6.98
	1995	7.36	7.51	7.43
	1996	6.59	7.56	6.98
	1997	7.04	7.43	7.23
	1998	7.12	7.51	7.30
	1999	7.08	7.30	7.18
	2000	6.97	7.19	7.08
LOVITT COTTAGE				
	2000	7.11	7.11	7.11
LOWER SHAKER BROOK				
	1995	7.03	7.15	7.09
	1996	7.06	7.50	7.20
	1997	6.31	7.14	6.55
	1998	7.10	7.41	7.23
	2000	7.35	7.36	7.35
MASCOMA R ABOVE				
	1993	6.85	6.85	6.85
	1995	7.04	7.38	7.18
	1996	6.72	7.01	6.84
	1997	6.68	6.73	6.70
	1998	6.66	6.66	6.66

Table 4.

MASCOMA LAKE, STN 1

ENFIELD

pH summary for current and historical sampling seasons.
Values in units, listed by station and year.

Station	Year	Minimum	Maximum	Mean
	1999	7.08	7.33	7.19
MASCOMA RIVER INLET				
	1991	7.40	7.40	7.40
	1992	6.50	7.23	6.73
	1993	7.00	7.33	7.13
	1994	6.96	7.49	7.15
	1995	7.03	7.37	7.16
	1996	6.81	7.38	6.99
	1997	6.85	7.32	6.99
	1998	6.62	7.21	6.90
	1999	7.30	7.46	7.36
	2000	7.02	7.06	7.04
METALIMNION				
	1991	6.79	6.90	6.84
	1992	5.85	6.47	6.15
	1993	6.49	6.57	6.53
	1994	6.20	6.70	6.34
	1995	6.55	7.30	6.84
	1996	5.91	6.56	6.15
	1997	6.20	7.25	6.54
	1998	6.38	7.11	6.56
	1999	6.15	7.31	6.40
	2000	6.26	6.58	6.43
OUTLET				
	1992	6.50	6.50	6.50

Table 4.

MASCOMA LAKE, STN 1

ENFIELD

pH summary for current and historical sampling seasons.
Values in units, listed by station and year.

Station	Year	Minimum	Maximum	Mean
	1993	7.59	7.59	7.59
PATTEN BRIDGE				
	1998	6.97	6.97	6.97
	2000	6.79	6.79	6.79
POLICE STATION				
	2000	6.88	6.96	6.92
RT 4 UPSTREAM				
	1992	6.59	6.59	6.59
	1995	6.73	6.73	6.73
SHAKER BROOK				
	1991	7.50	7.50	7.50
	1992	6.85	7.15	6.97
	1993	7.35	7.85	7.56
	1994	7.09	7.47	7.29
	1995	7.26	7.26	7.26
	1997	7.33	7.33	7.33
	1998	6.90	6.90	6.90
	2000	6.95	6.95	6.95
SMITH POND INLET				
	1993	6.65	7.30	6.86
	1994	7.07	7.45	7.18
	1995	6.83	7.06	6.93
	1996	6.78	7.08	6.87
	1997	6.32	6.90	6.60

Table 4.

MASCOMA LAKE, STN 1

ENFIELD

pH summary for current and historical sampling seasons.
Values in units, listed by station and year.

Station	Year	Minimum	Maximum	Mean
	1998	6.72	6.93	6.83
	1999	6.83	7.58	7.03
	2000	6.73	7.09	6.91
SUCKER BROOK				
	1991	7.60	7.80	7.69
	1992	6.70	7.06	6.84
	1993	7.39	7.64	7.48
	1994	7.26	7.87	7.45
	1995	7.59	7.78	7.66
	1996	7.03	7.52	7.27
	1997	7.32	7.64	7.48
	1998	7.17	7.71	7.41
	1999	7.49	7.73	7.63
	2000	7.16	7.32	7.24
WESTMOST MOTEL				
	1998	7.90	7.90	7.90

Table 5.

MASCOMA LAKE, STN 1

ENFIELD

Summary of current and historical Acid Neutralizing Capacity.
Values expressed in mg/L as CaCO .

Epilimnetic Values

Year	Minimum	Maximum	Mean
1991	9.40	9.40	9.40
1992	8.80	10.30	9.43
1993	9.20	9.30	9.25
1994	5.90	10.30	8.53
1995	9.70	10.10	9.90
1996	8.10	9.80	8.97
1997	6.30	9.00	8.03
1998	7.60	7.60	7.60
1999	0.70	11.80	7.67
2000	7.40	21.40	13.10

Table 6.

MASCOMA LAKE, STN 1

ENFIELD

Specific conductance results from current and historic sampling seasons. Results in uMhos/cm.

Station	Year	Minimum	Maximum	Mean
4A LEBANON BROOK				
	1991	227.9	243.8	235.8
	1992	215.0	215.0	215.0
	1993	352.0	360.0	356.0
	1994	120.6	314.0	240.8
	1995	257.0	336.0	288.3
	1996	208.0	235.0	220.6
	1997	258.0	330.0	295.0
	1998	157.8	157.8	157.8
	2000	104.7	174.4	139.5
BALTIC MILLS				
	1999	96.2	96.2	96.2
	2000	63.0	70.8	66.9
BROAD BROOK				
	1991	123.7	123.7	123.7
BROOK NORTH				
	1996	54.5	54.5	54.5
BROOK SOUTH				
	1996	55.0	55.0	55.0
BROWNS BROOK				
	1991	104.3	104.3	104.3
	1992	139.1	144.5	141.8
	1993	107.1	163.9	135.5
	1994	121.2	175.0	151.7
	1995	183.0	234.0	213.3

Table 6.

MASCOMA LAKE, STN 1

ENFIELD

Specific conductance results from current and historic sampling seasons. Results in uMhos/cm.

Station	Year	Minimum	Maximum	Mean
	1996	156.0	207.0	174.2
	1997	188.0	188.9	188.4
	1998	138.0	174.3	155.7
	1999	215.0	253.0	234.0
	2000	105.4	227.0	170.8
DAM OUTLET				
	1991	51.7	60.3	56.0
	1992	59.8	59.8	59.8
	1993	59.0	59.0	59.0
	1994	55.7	64.9	60.7
	1995	60.1	70.4	65.8
	1996	55.6	60.4	57.5
	1997	56.5	63.7	60.6
	1998	50.3	64.0	58.4
	1999	65.6	71.8	69.2
	2000	60.6	68.0	64.3
DULACS BROOK				
	1991	75.9	80.1	78.0
	1992	50.5	54.6	52.5
	1993	51.7	71.4	61.5
	1994	47.6	83.4	70.6
	1995	74.0	77.7	75.9
	1996	60.3	107.9	80.1
	1997	80.3	84.1	82.6
	1998	36.2	99.0	67.6
	1999	77.9	82.1	80.4

Table 6.

MASCOMA LAKE, STN 1

ENFIELD

Specific conductance results from current and historic sampling seasons. Results in uMhos/cm.

Station	Year	Minimum	Maximum	Mean
	2000	53.8	123.4	77.7
EASTSIDE BROOK				
	1998	340.3	340.3	340.3
ENFIELD INLET				
	1993	74.5	74.5	74.5
EPILIMNION				
	1991	56.8	56.8	56.8
	1992	55.1	58.4	56.9
	1993	59.6	62.4	61.0
	1994	54.6	66.1	61.6
	1995	60.8	70.3	65.9
	1996	54.0	60.0	56.1
	1997	55.6	62.4	59.8
	1998	50.5	64.1	58.8
	1999	65.1	71.2	68.8
	2000	58.8	64.4	61.4
ESSENBURG COTTAGE				
	2000	66.0	66.0	66.0
HYPOLIMNION				
	1991	51.1	51.1	51.1
	1992	53.3	59.9	56.5
	1993	53.1	54.1	53.6
	1994	53.0	56.1	54.3
	1995	58.9	69.7	63.8
	1996	50.0	53.0	51.7

Table 6.

MASCOMA LAKE, STN 1

ENFIELD

Specific conductance results from current and historic sampling seasons. Results in uMhos/cm.

Station	Year	Minimum	Maximum	Mean
	1997	49.0	57.3	52.8
	1998	53.8	60.0	56.9
	1999	57.8	64.7	61.4
	2000	57.5	59.0	58.3
INLET				
	1994	61.9	61.9	61.9
ISLAND BROOK				
	1996	257.0	262.0	259.5
KNOX BROOK				
	1991	101.3	125.6	113.4
	1992	65.9	98.7	82.3
	1993	24.6	111.4	68.0
	1994	78.5	116.9	99.9
	1995	105.0	143.9	119.1
	1996	87.2	109.2	94.7
	1997	99.3	109.3	104.6
	1998	67.7	140.2	109.3
	1999	128.6	146.7	139.2
	2000	94.3	123.7	104.7
KU INLET				
	1991	76.2	76.2	76.2
LA SALETTE BROOK				
	1991	168.6	168.6	168.6
	1992	127.8	141.1	134.4
	1993	420.0	477.0	448.5

Table 6.

MASCOMA LAKE, STN 1

ENFIELD

Specific conductance results from current and historic sampling seasons. Results in uMhos/cm.

Station	Year	Minimum	Maximum	Mean
	1994	82.6	542.0	247.3
	1995	146.5	200.0	177.9
	1996	66.2	163.7	103.6
	1997	90.3	185.0	151.9
	1998	42.1	199.5	144.2
	1999	184.8	224.0	204.4
	2000	70.4	93.5	84.0
LOVITT COTTAGE				
	2000	63.2	63.2	63.2
LOWER SHAKER BROOK				
	1995	382.0	394.0	388.0
	1996	372.0	395.0	387.0
	1997	303.0	327.0	315.0
	1998	236.2	454.0	345.1
	2000	105.0	349.0	227.0
MASCOMA R ABOVE				
	1993	69.7	69.7	69.7
	1995	90.5	95.0	92.7
	1996	24.4	88.2	56.6
	1997	63.2	80.4	71.8
	1998	46.6	46.6	46.6
	1999	91.8	98.8	95.3
MASCOMA RIVER INLET				
	1991	95.2	95.2	95.2
	1992	64.9	75.9	70.4
	1993	72.0	72.0	72.0

Table 6.

MASCOMA LAKE, STN 1

ENFIELD

Specific conductance results from current and historic sampling seasons. Results in uMhos/cm.

Station	Year	Minimum	Maximum	Mean
	1994	59.4	65.4	62.4
	1995	60.4	105.2	88.8
	1996	55.1	96.6	70.5
	1997	68.1	83.4	73.3
	1998	48.4	85.0	71.7
	1999	102.9	114.8	110.1
	2000	65.0	81.2	73.8
METALIMNION				
	1991	56.1	58.5	57.3
	1992	54.6	59.6	57.2
	1993	56.6	57.8	57.2
	1994	53.6	60.7	56.7
	1995	61.1	70.3	65.6
	1996	53.6	54.8	54.0
	1997	55.6	62.3	58.7
	1998	55.2	64.1	59.0
	1999	59.1	71.1	63.9
	2000	58.0	64.9	61.3
OUTLET				
	1992	59.6	59.6	59.6
PATTEN BRIDGE				
	1998	79.7	79.7	79.7
	2000	63.0	63.0	63.0
POLICE STATION				
	2000	73.2	78.6	75.9

Table 6.

MASCOMA LAKE, STN 1

ENFIELD

Specific conductance results from current and historic sampling seasons. Results in uMhos/cm.

Station	Year	Minimum	Maximum	Mean
RT 4 UPSTREAM				
	1992	323.4	323.4	323.4
	1995	56.5	56.5	56.5
SHAKER BROOK				
	1991	197.9	197.9	197.9
	1992	235.0	314.2	274.6
	1993	163.0	185.3	174.1
	1994	123.2	360.8	216.4
	1995	432.0	432.0	432.0
	1997	354.0	354.0	354.0
	1998	32.3	32.3	32.3
	2000	535.0	535.0	535.0
SMITH POND INLET				
	1993	21.6	21.6	21.6
	1994	23.9	25.0	24.5
	1995	23.3	24.2	23.7
	1996	20.8	24.6	22.2
	1997	20.8	23.0	21.6
	1998	20.0	23.9	21.4
	1999	21.7	22.9	22.5
	2000	22.4	24.6	23.3
SUCKER BROOK				
	1991	164.9	181.5	173.2
	1992	69.3	165.9	117.6
	1993	177.3	206.0	191.6
	1994	121.4	193.4	156.0

Table 6.

MASCOMA LAKE, STN 1

ENFIELD

Specific conductance results from current and historic sampling seasons. Results in uMhos/cm.

Station	Year	Minimum	Maximum	Mean
	1995	152.5	188.0	173.0
	1996	135.9	181.5	151.3
	1997	172.1	199.0	188.5
	1998	93.6	195.0	159.0
	1999	178.0	202.0	192.6
	2000	104.5	167.7	138.2
WESTMOST MOTEL				
	1998	63.6	63.6	63.6

Table 8.

MASCOMA LAKE, STN 1

ENFIELD

Summary historical and current sampling season Total Phosphorus data. Results in ug/L.

Station	Year	Minimum	Maximum	Mean
4A LEBANON BROOK				
	1991	4	8	6
	1992	6	28	17
	1993	3	17	8
	1994	6	10	8
	1995	3	15	8
	1996	7	15	12
	1997	5	8	6
	1998	3	3	3
	2000	< 5	5	4
BALTIC MILLS				
	1999	17	17	17
	2000	8	18	13
BROAD BROOK				
	1991	23	23	23
BROOK NORTH				
	1996	27	27	27
BROOK SOUTH				
	1996	21	21	21
BROWNS BROOK				
	1991	20	20	20
	1992	12	16	14
	1993	10	13	12
	1994	11	17	13
	1995	9	24	15

Table 8.

MASCOMA LAKE, STN 1

ENFIELD

Summary historical and current sampling season Total Phosphorus data. Results in ug/L.

Station	Year	Minimum	Maximum	Mean
	1996	33	41	36
	1997	19	37	28
	1998	16	27	20
	1999	10	15	12
	2000	13	30	20
DAM OUTLET				
	1991	7	10	8
	1992	9	9	9
	1993	5	5	5
	1994	8	15	10
	1995	6	11	9
	1996	11	14	12
	1997	6	10	7
	1998	7	9	8
	1999	9	15	11
	2000	< 5	9	7
DULACS BROOK				
	1991	3	6	4
	1992	5	20	10
	1993	2	4	3
	1994	4	7	6
	1995	4	7	5
	1996	6	10	7
	1997	3	5	4
	1998	2	6	4
	1999	5	11	7

Table 8.

MASCOMA LAKE, STN 1

ENFIELD

Summary historical and current sampling season Total Phosphorus data. Results in ug/L.

Station	Year	Minimum	Maximum	Mean
	2000	< 5	7	6
EASTMOST HOTEL				
	1998	16	16	16
EASTSIDE BROOK				
	1998	26	26	26
ENFIELD INLET				
	1993	16	16	16
	1995	12	12	12
EPILIMNION				
	1991	10	10	10
	1992	4	10	7
	1993	5	10	7
	1994	1	11	6
	1995	4	10	7
	1996	12	19	15
	1997	6	10	8
	1998	5	10	7
	1999	5	10	6
	2000	5	10	7
ESSENBURG COTTAGE				
	2000	9	9	9
HYPOLIMNION				
	1991	13	13	13
	1992	11	16	14
	1993	13	21	15

Table 8.

MASCOMA LAKE, STN 1

ENFIELD

Summary historical and current sampling season Total Phosphorus data. Results in ug/L.

Station	Year	Minimum	Maximum	Mean
	1994	5	14	11
	1995	10	24	15
	1996	16	26	22
	1997	8	16	12
	1998	8	18	11
	1999	13	20	16
	2000	8	18	12
INLET				
	1994	19	19	19
ISLAND BROOK				
	1996	13	27	20
KNOX BROOK				
	1991	11	17	14
	1992	10	13	11
	1993	11	33	18
	1994	6	20	13
	1995	13	15	14
	1996	13	13	13
	1997	10	16	13
	1998	8	10	9
	1999	9	12	10
	2000	6	16	11
KU INLET				
	1991	19	19	19

Table 8.

MASCOMA LAKE, STN 1

ENFIELD

Summary historical and current sampling season Total Phosphorus data. Results in ug/L.

Station	Year	Minimum	Maximum	Mean
LA SALETTE BROOK				
	1991	11	11	11
	1992	10	11	10
	1993	5	15	9
	1994	4	14	10
	1995	12	12	12
	1996	10	24	15
	1997	11	17	13
	1998	6	15	9
	1999	11	13	12
	2000	3	41	16
LOVITT COTTAGE				
	2000	7	14	9
LOWER SHAKER BROOK				
	1995	25	50	37
	1996	13	22	17
	1997	8	15	11
	1998	10	15	12
	2000	5	14	9
MASCOMA R ABOVE				
	1993	10	10	10
	1995	17	21	19
	1996	18	25	21
	1997	10	14	12
	1998	12	12	12

Table 8.

MASCOMA LAKE, STN 1

ENFIELD

Summary historical and current sampling season Total Phosphorus data. Results in ug/L.

Station	Year	Minimum	Maximum	Mean
	1999	10	16	13
MASCOMA RIVER INLET				
	1991	24	24	24
	1992	13	16	14
	1993	12	12	12
	1994	6	11	8
	1995	14	17	15
	1996	15	19	17
	1997	11	18	14
	1998	9	13	10
	1999	12	15	14
	2000	6	14	10
METALIMNION				
	1991	9	9	9
	1992	3	11	8
	1993	6	70	28
	1994	4	20	10
	1995	7	11	9
	1996	10	17	13
	1997	6	9	7
	1998	4	8	6
	1999	7	10	9
	2000	< 5	12	8
MIXED COTTAGES EAST				
	1999	7	7	7

Table 8.

MASCOMA LAKE, STN 1

ENFIELD

Summary historical and current sampling season Total Phosphorus data. Results in ug/L.

Station	Year	Minimum	Maximum	Mean
N COTT. BETW A+B				
	1999	10	10	10
NORTH COTTAGE A				
	1999	7	10	8
NORTH COTTAGE B				
	1999	9	13	11
NORTH COTTAGE C				
	1999	11	11	11
OUTLET				
	1992	12	12	12
	1993	9	9	9
PATTEN BRIDGE				
	1998	13	13	13
	2000	9	16	12
POLICE STATION				
	2000	6	17	11
RT 4 UPSTREAM				
	1992	3	3	3
	1995	13	13	13
SHAKER BROOK				
	1991	28	28	28
	1992	9	28	16
	1993	8	11	9
	1994	8	13	10
	1995	14	14	14

Table 8.

MASCOMA LAKE, STN 1

ENFIELD

Summary historical and current sampling season Total Phosphorus data. Results in ug/L.

Station	Year	Minimum	Maximum	Mean
	1997	37	37	37
	1998	13	13	13
	2000	7	7	7
SMITH POND INLET				
	1993	5	5	5
	1994	4	11	7
	1995	3	14	10
	1996	7	8	7
	1997	3	9	6
	1998	1	5	3
	1999	4	11	8
	2000	< 5	10	7
SUCKER BROOK				
	1991	1	6	3
	1992	5	32	15
	1993	2	5	3
	1994	3	9	5
	1995	4	9	6
	1996	7	14	9
	1997	6	19	11
	1998	2	10	5
	1999	4	7	5
	2000	6	7	6
TOOTH ACRE				
	1999	27	27	27

Table 8.

MASCOMA LAKE, STN 1

ENFIELD

Summary historical and current sampling season Total Phosphorus data. Results in ug/L.

Station	Year	Minimum	Maximum	Mean
WESTMOST MOTEL				
	1998	27	27	27

Table 9.

MASCOMA LAKE, STN 1

ENFIELD

Current year dissolved oxygen and temperature data.

Depth (meters)	Temperature (celsius)	Dissolved Oxygen (mg/L)	Saturation (%)
	July 9, 2000		
0.1	21.5	8.6	96.4
1.0	21.4	8.6	96.7
2.0	20.9	8.5	95.0
3.0	20.9	8.2	92.4
4.0	20.8	8.2	91.6
5.0	20.6	8.2	91.7
6.0	20.2	8.1	89.1
7.0	15.1	6.1	60.5
8.0	13.0	6.1	57.7
9.0	11.8	6.0	55.2
10.0	11.4	5.7	52.4
11.0	10.3	5.5	49.5
12.0	9.8	5.7	49.7
13.0	9.5	5.4	46.9
14.0	9.1	5.3	46.2
15.0	8.7	5.3	45.2
16.0	8.5	5.3	45.0
17.0	8.4	5.0	42.6
18.0	8.2	4.7	40.1
19.0	8.0	4.8	40.6
20.0	7.8	4.1	34.7
21.0	7.5	2.7	22.8
22.0	7.5	1.0	8.4
	August 14, 2000		
0.1	23.1	8.1	94.7
1.0	23.1	8.1	94.9
2.0	23.0	8.1	94.8
3.0	23.0	8.1	94.3
4.0	22.7	7.7	89.9

Table 9.

MASCOMA LAKE, STN 1

ENFIELD

Current year dissolved oxygen and temperature data.

Depth (meters)	Temperature (celsius)	Dissolved Oxygen (mg/L)	Saturation (%)
	August 14, 2000		
5.0	20.9	6.2	69.3
6.0	19.5	5.2	56.2
7.0	17.8	4.4	46.5
8.0	15.7	3.4	34.4
9.0	13.6	3.1	29.4
10.0	11.8	3.1	29.3
11.0	11.0	2.9	26.5
12.0	10.3	2.7	24.1
13.0	10.0	2.7	23.8
14.0	9.8	2.7	23.5
15.0	9.5	2.4	20.9
16.0	8.8	2.2	18.9
17.0	8.3	1.6	13.9
18.0	8.1	0.9	7.4
19.0	8.0	0.6	5.1
20.0	7.9	0.4	3.4
21.0	8.0	0.4	3.3
	October 3, 2000		
0.1	16.1	8.6	89.3
1.0	16.0	8.8	89.3
2.0	15.9	8.9	90.0
3.0	15.8	8.9	89.9
4.0	15.8	8.9	90.0
5.0	15.7	8.7	87.3
6.0	15.6	8.2	82.7
7.0	15.4	8.1	81.0
8.0	15.1	7.5	74.9
9.0	14.3	5.0	50.3
10.0	12.4	0.9	8.2

Table 9.

MASCOMA LAKE, STN 1

ENFIELD

Current year dissolved oxygen and temperature data.

Depth (meters)	Temperature (celsius)	Dissolved Oxygen (mg/L)	Saturation (%)
		October 3, 2000	
11.0	11.1	0.4	3.4
12.0	10.6	0.4	3.5
13.0	10.2	0.4	3.7
14.0	9.5	0.5	3.9
15.0	8.9	0.5	4.0
16.0	8.5	0.5	4.1
17.0	8.4	0.5	4.4
18.0	8.3	0.6	4.5
19.0	8.3	0.6	4.7
20.0	8.4	0.6	5.2
21.0	8.4	0.6	5.2

Table 10.

MASCOMA LAKE, STN 1

ENFIELD

Historic Hypolimnetic dissolved oxygen and temperature data.

Date	Depth (meters)	Temperature (celsius)	Dissolved Oxygen (mg/L)	Saturation (%)
June 26, 1991	21.0	7.0	2.9	23.8
June 29, 1992	18.0	7.3	4.0	33.1
July 6, 1993	21.0	7.0	1.6	13.0
June 11, 1994	19.5	8.0	6.9	57.0
June 21, 1995	19.0	8.4	5.6	47.0
June 27, 1996	21.0	8.7	4.8	40.0
July 9, 1997	21.0	8.5	3.7	31.0
July 1, 1998	22.0	7.3	2.5	20.0
July 6, 1999	20.5	7.9	3.2	27.0
July 9, 2000	22.0	7.5	1.0	8.4
August 14, 2000	21.0	8.0	0.4	3.3
October 3, 2000	21.0	8.4	0.6	5.2

Table 11.

MASCOMA LAKE, STN 1

ENFIELD

Summary of current year and historic turbidity sampling.
Results in NTU's.

Station	Year	Minimum	Maximum	Mean
4A LEBANON BROOK				
	1992	6.2	6.2	6.2
	1993	0.5	0.5	0.5
	1994	0.8	0.9	0.8
	1995	0.3	0.6	0.4
	1996	0.7	0.9	0.8
	1997	0.2	0.8	0.4
	1998	0.0	0.0	0.0
	2000	0.3	0.8	0.5
BALTIC MILLS				
	1999	2.0	2.0	2.0
	2000	0.2	1.9	1.0
BROOK NORTH				
	1996	1.0	1.0	1.0
BROOK SOUTH				
	1996	1.1	1.1	1.1
BROWNS BROOK				
	1992	1.3	1.3	1.3
	1993	1.8	1.8	1.8
	1994	3.8	5.8	4.8
	1995	2.3	2.5	2.4
	1996	0.6	4.2	2.4
	1997	1.0	1.3	1.1
	1998	0.4	2.5	1.6
	1999	3.7	4.9	4.3
	2000	0.6	2.0	1.1

Table 11.

MASCOMA LAKE, STN 1

ENFIELD

Summary of current year and historic turbidity sampling.
Results in NTU's.

Station	Year	Minimum	Maximum	Mean
DAM OUTLET				
	1993	0.7	0.7	0.7
	1994	1.0	1.0	1.0
	1995	1.5	1.5	1.5
	1996	0.7	1.3	1.0
	1997	0.5	1.0	0.7
	1998	0.6	1.5	1.1
	1999	0.7	1.9	1.3
	2000	0.6	1.1	0.8
DULACS BROOK				
	1992	0.6	0.6	0.6
	1993	0.2	0.2	0.2
	1994	0.2	0.5	0.3
	1995	0.1	0.4	0.2
	1996	0.4	0.7	0.5
	1997	0.0	0.3	0.2
	1998	0.2	0.5	0.3
	1999	0.1	0.8	0.3
	2000	0.1	0.9	0.5
EASTSIDE BROOK				
	1998	1.0	1.0	1.0
EPILIMNION				
	1992	0.8	0.9	0.8
	1994	0.9	2.5	1.7
	1995	0.7	0.9	0.8
	1996	0.6	0.7	0.6
	1997	0.4	0.6	0.5

Table 11.

MASCOMA LAKE, STN 1

ENFIELD

Summary of current year and historic turbidity sampling.
Results in NTU's.

Station	Year	Minimum	Maximum	Mean
	1998	1.3	2.0	1.6
	1999	1.0	1.3	1.1
	2000	0.5	0.9	0.7
ESSENBURG COTTAGE				
	2000	1.1	1.1	1.1
HYPOLIMNION				
	1992	3.9	5.4	4.6
	1994	2.2	3.0	2.6
	1995	0.9	1.7	1.3
	1996	2.7	4.3	3.5
	1997	0.6	1.0	0.8
	1998	0.9	4.3	2.2
	1999	1.8	3.8	2.5
	2000	0.7	1.5	1.0
INLET				
	1994	2.2	2.2	2.2
ISLAND BROOK				
	1996	3.2	3.2	3.2
KNOX BROOK				
	1992	0.6	0.6	0.6
	1993	0.9	0.9	0.9
	1994	1.4	1.5	1.4
	1995	1.0	1.3	1.1
	1996	0.3	0.7	0.5
	1997	0.4	1.3	0.7
	1998	0.5	1.1	0.8

Table 11.

MASCOMA LAKE, STN 1

ENFIELD

Summary of current year and historic turbidity sampling.
Results in NTU's.

Station	Year	Minimum	Maximum	Mean
	1999	0.7	9.0	3.4
	2000	0.4	1.4	0.7
LA SALETTE BROOK				
	1992	1.2	1.2	1.2
	1993	0.9	0.9	0.9
	1994	0.3	1.0	0.6
	1995	0.1	0.5	0.3
	1996	0.3	0.7	0.5
	1997	0.3	1.2	0.6
	1998	0.1	0.9	0.4
	1999	0.2	0.7	0.4
	2000	0.2	0.7	0.4
LOVITT COTTAGE				
	2000	0.9	0.9	0.9
LOWER SHAKER BROOK				
	1995	0.8	2.3	1.5
	1996	0.2	0.2	0.2
	1997	0.2	0.3	0.2
	1998	0.5	1.3	0.9
	2000	0.2	1.3	0.7
MASCOMA R ABOVE				
	1993	1.7	1.7	1.7
	1995	1.5	3.5	2.5
	1996	1.4	2.3	1.8
	1997	1.6	1.9	1.7
	1998	1.3	1.3	1.3
	1999	1.2	1.8	1.5

Table 11.

MASCOMA LAKE, STN 1

ENFIELD

Summary of current year and historic turbidity sampling.
Results in NTU's.

Station	Year	Minimum	Maximum	Mean
MASCOMA RIVER INLET				
	1992	2.8	2.8	2.8
	1993	2.0	2.0	2.0
	1994	1.7	1.7	1.7
	1995	1.5	3.0	2.2
	1996	1.3	1.6	1.4
	1997	1.2	2.0	1.5
	1998	1.1	1.8	1.4
	1999	1.7	3.2	2.3
	2000	0.9	2.3	1.5
METALIMNION				
	1992	0.8	2.0	1.4
	1994	0.8	1.1	0.9
	1995	0.9	1.6	1.2
	1996	0.7	0.9	0.8
	1997	0.5	0.8	0.6
	1998	0.6	1.2	0.9
	1999	0.5	1.3	0.9
	2000	0.5	0.9	0.7
OUTLET				
	1992	1.8	1.8	1.8
PATTEN BRIDGE				
	1998	2.1	2.1	2.1
	2000	0.9	0.9	0.9
POLICE STATION				
	2000	1.8	2.2	2.0

Table 11.

MASCOMA LAKE, STN 1

ENFIELD

Summary of current year and historic turbidity sampling.
Results in NTU's.

Station	Year	Minimum	Maximum	Mean
SHAKER BROOK				
	1992	6.0	6.0	6.0
	1993	0.5	0.5	0.5
	1994	0.6	0.7	0.6
	1997	1.7	1.7	1.7
	1998	1.0	1.0	1.0
	2000	0.1	0.1	0.1
SMITH POND INLET				
	1993	0.2	0.2	0.2
	1994	0.6	0.6	0.6
	1995	0.2	0.7	0.4
	1996	0.1	0.1	0.1
	1997	0.1	2.3	0.9
	1998	0.3	0.9	0.6
	1999	0.2	1.0	0.6
	2000	0.4	1.2	0.9
SUCKER BROOK				
	1992	0.4	0.4	0.4
	1993	0.3	0.3	0.3
	1994	0.2	0.4	0.3
	1995	0.1	0.1	0.1
	1996	0.1	0.1	0.1
	1997	0.0	0.1	0.0
	1998	0.2	0.9	0.6
	1999	0.1	0.7	0.3
	2000	0.1	1.2	0.4
WESTMOST MOTEL				

Table 11.

MASCOMA LAKE, STN 1

ENFIELD

Summary of current year and historic turbidity sampling.
Results in NTU's.

Station	Year	Minimum	Maximum	Mean
	1998	5.9	5.9	5.9

Table 12.

MASCOMA LAKE, STN 1

ENFIELD

Summary of current year bacteria sampling.
Results in counts per 100ml.

Location	Date	E. Coli See Note Below
BALTIC MILLS		
	June 15	69
	August 14	26
BROWNS BROOK		
	June 15	23
	July 10	202
	August 14	400
DAM OUTLET		
	June 15	1
ESSENBURG COTTAGE		
	July 10	4
INFLOW KNOX		
	August 14	38
KNOX BROOK		
	June 15	68
	July 10	133
	August 14	29
LA SALETTE BROOK		
	June 15	13
	July 10	138
	August 14	60
LOVITT COTTAGE		
	July 10	1
	August 14	3
LOWER SHAKER BK		
	June 15	40
MASCOMA RIVER INLET		
	June 15	91

NOTE: "<" means "less than" and ">" means "greater than"

Table 12.

MASCOMA LAKE, STN 1

ENFIELD

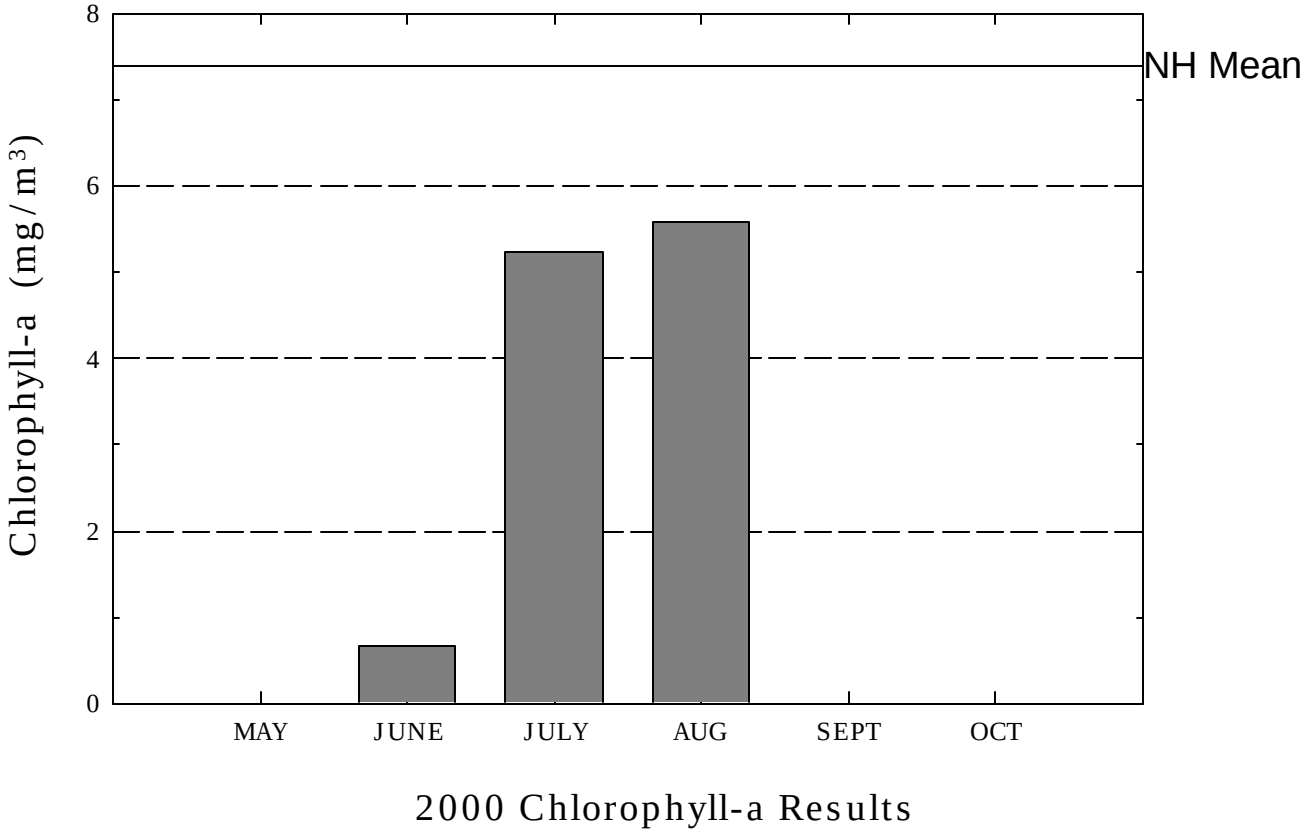
Summary of current year bacteria sampling.
Results in counts per 100ml.

Location	Date	E. Coli See Note Below
MASCOMA RIVER INLET		
	July 10	146
	August 14	98
PATTEN BRIDGE		
	June 15	54
	July 10	84
POLICE STATION		
	July 10	153
	August 14	39
PUBLIC BEACH		
	June 15	0
	July 10	2
	August 14	3
SHAKER BROOK		
	August 14	83
SMITH POND INLET		
	June 15	0
	July 10	15
	August 14	5
SUCKER BROOK		
	June 15	13
TOOTHACRE COTTAGE		
	July 10	2
WHITNEY HALL		
	June 15	58

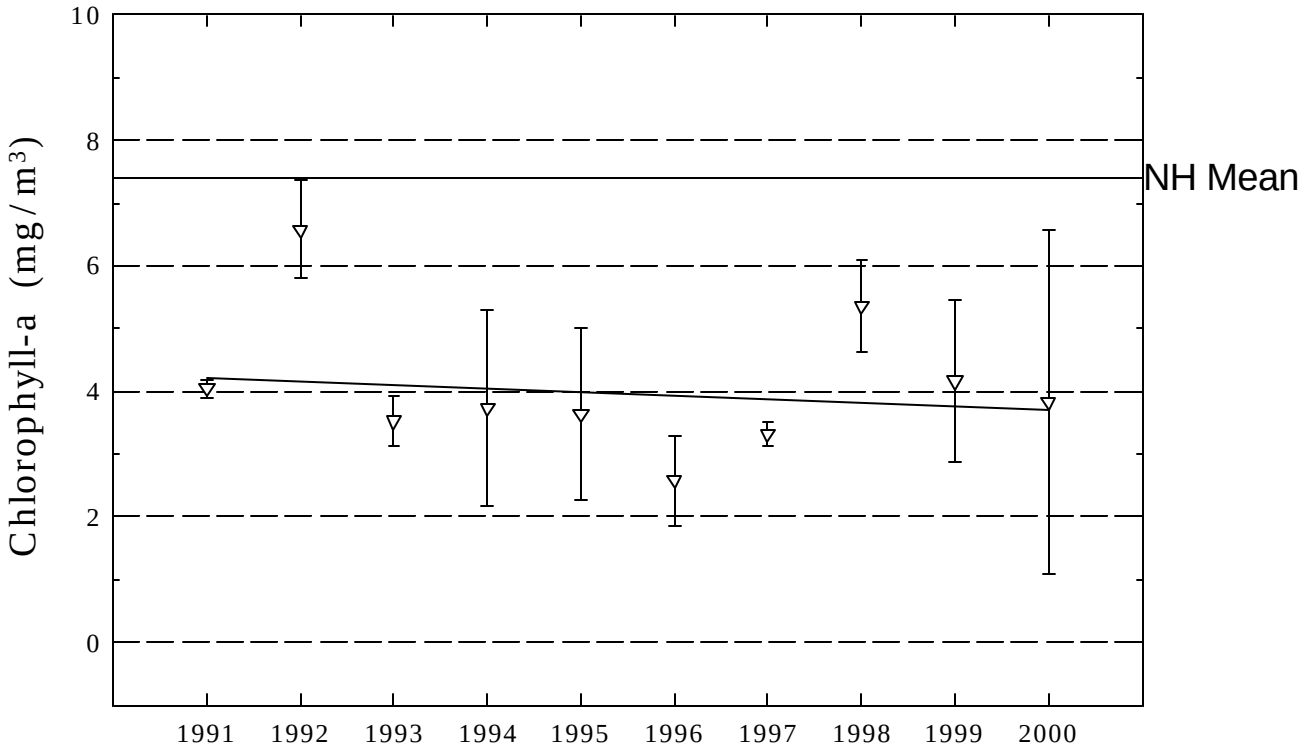
NOTE: "<" means "less than" and ">" means "greater than"

Mascoma Lake, Station 2

Figure 1. Monthly and Historical Chlorophyll-a Results



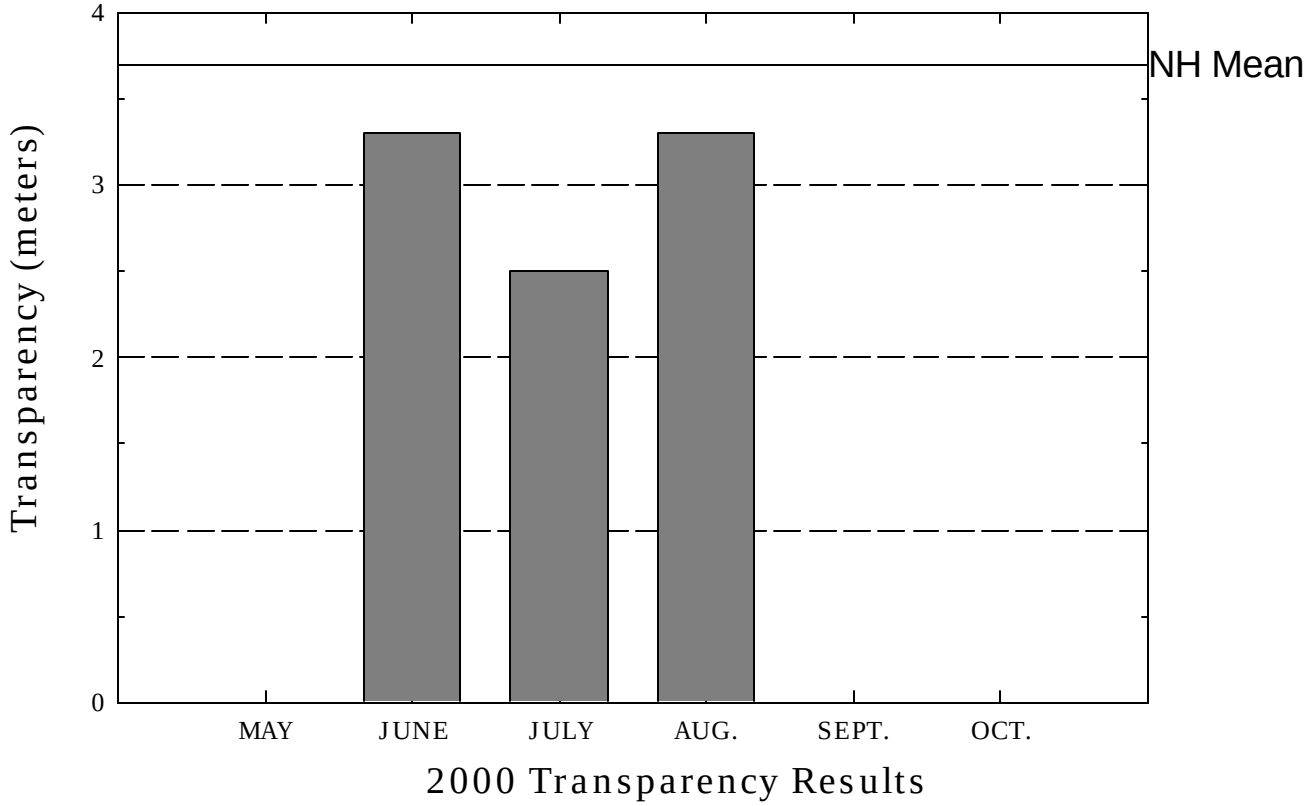
2000 Chlorophyll-a Results

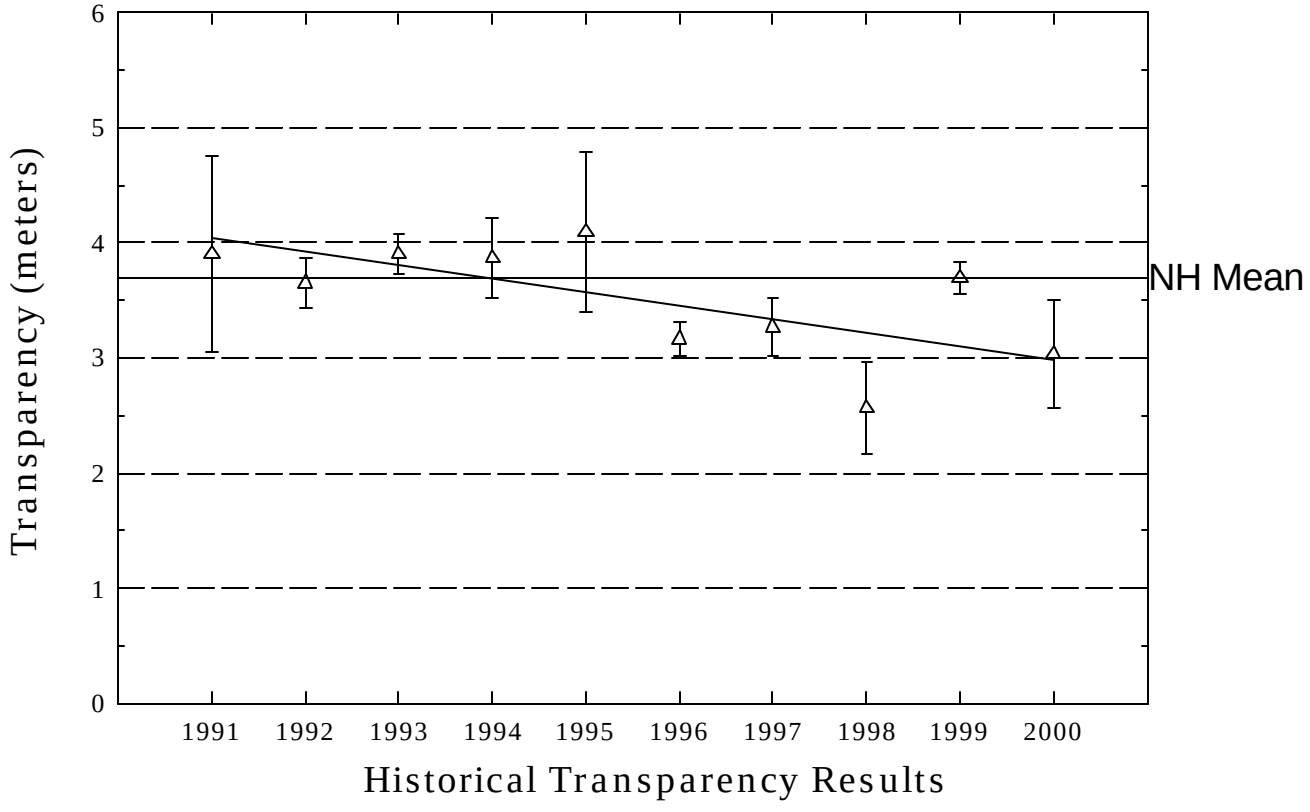


Historical Chlorophyll-a Results

Mascoma Lake, Station 2

Figure 2. Monthly and Historical Transparency Results





Mascoma Lake, Station 2

Figure 3. Monthly and Historical Total Phosphorus Data.

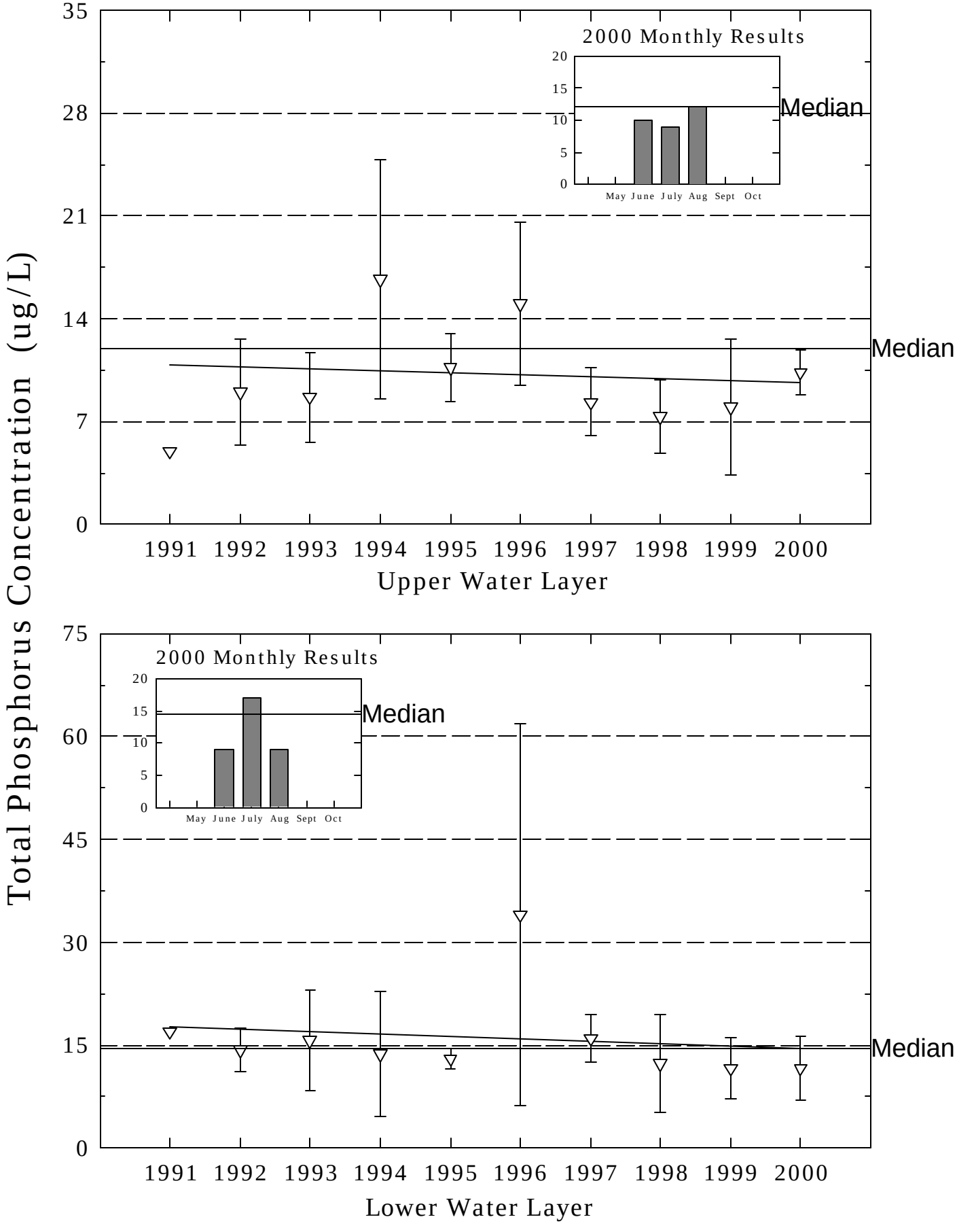


Table 1.

MASCOMA LAKE, STN 2

ENFIELD

Chlorophyll-a results (mg/m^3) for current year and historical sampling periods.

Year	Minimum	Maximum	Mean
1991	3.95	4.15	4.05
1992	6.04	7.13	6.58
1993	3.08	3.84	3.53
1994	2.32	5.43	3.73
1995	2.37	5.10	3.63
1996	1.80	3.20	2.58
1997	3.11	3.51	3.31
1998	4.83	5.88	5.35
1999	2.68	5.10	4.16
2000	0.66	5.59	3.83

Table 2.

MASCOMA LAKE, STN 2

ENFIELD

Phytoplankton species and relative percent abundance.

Summary for current and historical sampling seasons.

Date of Sample	Species Observed	Relative % Abundance
06/27/1991	TABELLARIA	54
	ASTERIONELLA	7
06/30/1993	ASTERIONELLA	25
	MELOSIRA	21
06/16/1994	ASTERIONELLA	38
	ANABAENA	36
	DINOBRYON	17
06/21/1995	ANABAENA	53
	ASTERIONELLA	41
	DINOBRYON	2
06/27/1996	MELOSIRA	36
	ANABAENA	29
	ASTERIONELLA	10
07/09/1997	TABELLARIA	46
	MICROCYSTIS	12
	ASTERIONELLA	11
07/01/1998	DINOBRYON	65
	ANABAENA	17
	CHRYSOSPHAERELLA	9
07/06/1999	ASTERIONELLA	49
	TABELLARIA	27
	FRAGILARIA	6
06/15/2000	ASTERIONELLA	95
	TABELLARIA	2
	STAURASTRUM	1

Table 3.

MASCOMA LAKE, STN 2

ENFIELD

Summary of current and historical Secchi Disk transparency results (in meters).

Year	Minimum	Maximum	Mean
1991	3.3	4.5	3.9
1992	3.5	3.8	3.6
1993	3.7	4.0	3.9
1994	3.5	4.2	3.8
1995	3.3	4.5	4.1
1996	3.0	3.3	3.1
1997	3.0	3.5	3.2
1998	2.1	2.8	2.5
1999	3.6	3.8	3.7
2000	2.5	3.3	3.0

Table 4.

MASCOMA LAKE, STN 2

ENFIELD

pH summary for current and historical sampling seasons.
Values in units, listed by station and year.

Station	Year	Minimum	Maximum	Mean
EPILIMNION				
	1991	7.23	7.23	7.23
	1992	6.30	7.17	6.51
	1993	7.17	7.35	7.25
	1994	6.89	7.03	6.94
	1995	7.17	7.40	7.30
	1996	6.36	7.20	6.70
	1997	6.84	7.19	7.03
	1998	6.67	7.27	6.93
	1999	7.05	7.30	7.18
	2000	6.82	7.00	6.93
HYPOLIMNION				
	1991	6.40	6.40	6.40
	1992	5.99	6.37	6.13
	1993	6.61	6.63	6.62
	1994	6.49	6.87	6.67
	1995	6.53	7.12	6.71
	1996	6.17	6.55	6.37
	1997	5.75	7.00	6.14
	1998	6.41	7.26	6.59
	1999	6.47	6.56	6.53
	2000	6.36	6.52	6.44
METALIMNION				
	1991	6.90	6.94	6.92
	1992	6.05	6.92	6.37

Table 4.

MASCOMA LAKE, STN 2

ENFIELD

pH summary for current and historical sampling seasons.
Values in units, listed by station and year.

Station	Year	Minimum	Maximum	Mean
	1993	6.85	7.47	7.06
	1994	6.69	6.85	6.77
	1995	6.95	7.61	7.17
	1996	6.08	6.76	6.35
	1997	6.25	6.99	6.54
	1998	7.03	7.27	7.13
	1999	6.82	7.17	6.93
	2000	6.60	6.85	6.72

Table 5.

MASCOMA LAKE, STN 2

ENFIELD

Summary of current and historical Acid Neutralizing Capacity.
Values expressed in mg/L as CaCO .

Epilimnetic Values

Year	Minimum	Maximum	Mean
1992	8.90	9.40	9.13
1993	10.10	10.20	10.15
1994	8.30	10.50	9.40
1995	10.00	11.50	10.50
1996	7.40	13.70	9.90
1997	4.50	9.40	7.67
1998	11.10	12.20	11.65
1999	8.40	10.70	9.83
2000	7.20	20.70	13.17

Table 6.

MASCOMA LAKE, STN 2

ENFIELD

Specific conductance results from current and historic sampling seasons. Results in uMhos/cm.

Station	Year	Minimum	Maximum	Mean
EPILIMNION				
	1991	58.0	58.0	58.0
	1992	55.6	57.2	56.5
	1993	58.3	62.1	60.2
	1994	56.3	64.0	60.5
	1995	61.7	70.0	66.0
	1996	54.2	60.5	56.5
	1997	56.0	63.1	60.2
	1998	50.3	64.0	58.1
	1999	65.8	71.1	69.0
	2000	59.3	66.8	63.4
HYPOLIMNION				
	1991	56.7	56.7	56.7
	1992	56.9	58.9	57.8
	1993	57.8	61.7	59.7
	1994	53.8	64.0	59.2
	1995	60.7	73.4	67.0
	1996	53.1	58.8	56.1
	1997	55.9	62.3	58.5
	1998	52.6	61.8	58.1
	1999	62.4	72.0	67.3
	2000	59.0	64.8	62.3
METALIMNION				
	1991	57.2	60.4	58.8
	1992	56.7	60.0	58.1

Table 6.

MASCOMA LAKE, STN 2

ENFIELD

Specific conductance results from current and historic sampling seasons. Results in uMhos/cm.

Station	Year	Minimum	Maximum	Mean
	1993	58.8	62.6	60.7
	1994	54.9	64.2	60.1
	1995	60.8	69.9	65.8
	1996	54.2	56.8	55.2
	1997	53.6	63.1	59.0
	1998	60.2	63.8	62.0
	1999	64.5	71.1	68.5
	2000	59.1	67.4	62.5

Table 8.

MASCOMA LAKE, STN 2

ENFIELD

Summary historical and current sampling season Total Phosphorus data. Results in ug/L.

Station	Year	Minimum	Maximum	Mean
BOAT LAUNCH				
	1999	9	9	9
EPILIMNION				
	1991	5	5	5
	1992	5	12	9
	1993	6	12	8
	1994	11	26	16
	1995	8	12	10
	1996	10	21	15
	1997	7	11	8
	1998	5	10	7
	1999	3	12	8
	2000	9	12	10
HYPOLIMNION				
	1991	17	17	17
	1992	12	18	14
	1993	10	24	15
	1994	7	24	13
	1995	12	250	92
	1996	15	66	34
	1997	14	20	16
	1998	6	20	12
	1999	7	16	11
	2000	9	17	11

Table 8.

MASCOMA LAKE, STN 2

ENFIELD

Summary historical and current sampling season Total Phosphorus data. Results in ug/L.

Station	Year	Minimum	Maximum	Mean
METALIMNION				
	1991	7	7	7
	1992	6	13	10
	1993	6	9	8
	1994	13	15	14
	1995	11	13	12
	1996	12	35	20
	1997	6	12	8
	1998	5	8	6
	1999	7	11	9
	2000	6	8	6

Table 9.

MASCOMA LAKE, STN 2

ENFIELD

Current year dissolved oxygen and temperature data.

Depth (meters)	Temperature (celsius)	Dissolved Oxygen (mg/L)	Saturation (%)
		July 9, 2000	
0.1	21.1	8.6	95.9
1.0	21.1	8.6	96.3
2.0	20.5	8.5	95.0
3.0	20.3	8.3	91.6
4.0	19.9	7.8	85.3
5.0	18.8	7.0	75.2
6.0	16.1	5.6	56.8
7.0	14.7	5.0	49.1
8.0	13.3	2.7	25.8
9.0	11.7	0.6	4.9
		August 14, 2000	
0.1	23.2	8.0	93.9
1.0	22.9	8.1	93.8
2.0	22.8	8.1	93.6
3.0	22.8	8.0	92.9
4.0	22.7	7.9	92.1
5.0	21.6	6.2	70.9
6.0	19.3	4.4	48.4
7.0	17.6	2.8	29.7
8.0	16.1	0.7	7.4
9.0	13.5	0.2	1.8

Table 10.

MASCOMA LAKE, STN 2

ENFIELD

Historic Hypolimnetic dissolved oxygen and temperature data.

Date	Depth (meters)	Temperature (celsius)	Dissolved Oxygen (mg/L)	Saturation (%)
June 26, 1991	10.0	13.1	1.5	14.3
June 29, 1992	10.0	9.6	0.5	4.4
June 30, 1993	10.0	13.0	2.4	23.0
June 16, 1994	8.5	11.8	6.8	61.0
June 21, 1995	9.0	10.5	3.7	32.0
June 27, 1996	9.5	12.2	0.7	6.0
July 9, 1997	10.0	10.5	4.2	37.0
July 1, 1998	9.0	14.1	3.3	32.0
July 6, 1999	8.5	12.0	1.6	15.3
July 9, 2000	9.0	11.7	0.6	4.9
August 14, 2000	9.0	13.5	0.2	1.8

Table 11.

MASCOMA LAKE, STN 2

ENFIELD

Summary of current year and historic turbidity sampling.
Results in NTU's.

Station	Year	Minimum	Maximum	Mean
EPILIMNION				
	1992	0.7	0.9	0.8
	1994	0.8	1.0	0.9
	1995	0.9	1.0	0.9
	1996	1.0	1.3	1.1
	1997	0.4	0.7	0.5
	1998	0.6	1.0	0.7
	1999	1.0	1.1	1.0
	2000	0.4	1.1	0.7
HYPOLIMNION				
	1992	0.8	4.0	2.4
	1994	1.0	1.0	1.0
	1995	1.4	12.3	6.8
	1996	8.2	11.2	9.7
	1997	0.7	5.0	2.4
	1998	0.6	2.9	1.5
	1999	3.3	9.9	6.6
	2000	0.7	5.6	2.6
METALIMNION				
	1992	1.0	1.6	1.3
	1994	1.0	1.0	1.0
	1995	1.0	1.0	1.0
	1996	0.9	1.6	1.2
	1997	0.6	1.5	0.9
	1998	1.5	1.6	1.5
	1999	1.0	1.2	1.1
	2000	0.5	1.0	0.7